

**PHYSICALLY DEFINED VARACTOR IN A CMOS PROCESS**

**ABSTRACT OF THE DISCLOSURE**

A differential varactor is physically defined in a CMOS process using a using the diffusion mask of a polycide gate rather than a P (+) mask, as is commonly used. The differential CMOS varactor may be used in a a phase locked loop (PLL) of a voltage-controlled oscillator (VCO) to enable a transceiver to communicate at OC-3/STM-1 data rates using SONET/SDH signaling formats.